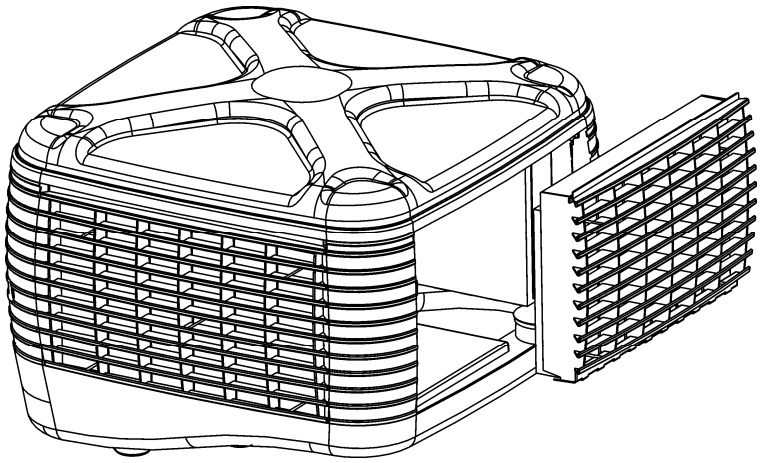
Installation Instructions

BONAIRE®

EAC

Domestic Ducted Evaporative Air Conditioners



Integra

VSS50/55, VSM60/65, VSL70/75

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1.0 Introduction

Please take the time to fully read this Installation manual. Failure to follow these instructions may result in injury to you and damage to the air conditioner or your customer's property.

Installation of this Bonaire Evaporative Air Conditioner must conform to local building rules and regulations, electrical and plumbing codes, Environmental Protection Authority (EPA) regulations, and all applicable Australian Standards.

Should you not follow these instructions the unit warranty may be void. The cost of warranty would then be the cost of the customer or the installer / dealer.

Refer to the tick box Commissioning Checklist to ensure you have covered all points when the installation is complete. Please complete the Commissioning Checklist tick box in the owner's manual, as a completed, signed and dated checklist will be required to verify certain warranty claims.

1.1. Important Notes

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- All rights reserved. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without prior permission in writing from Climate Technologies.
- **Climate Technologies is constantly researching and developing improved product features and therefore reserves the right to change the specifications without notice. E. & O.E.**

1.2. Dealer / Installer Responsibility

1.2.1. Training

- It is the responsibility of all dealers to ensure their staff are adequately trained to ensure the product is correctly specified.
- It is the responsibility of all dealers to ensure their installation teams / sub-contractors are trained in the correct installation of product, duct & fittings as well as relevant installation codes and OH&S requirements.
- Climate Technologies will provide technical assistance and training to the dealer as required. On going technical support will only be provided to those dealers and installers who attend regular training provided by Climate Technologies.

1.2.2. Legal & Statutory obligations

- It is the dealer / installer's responsibility to comply with all codes & standards, statutory and legal requirements, state and council / shire by laws.
- Relevant certificates of compliance for the installation must be issued. Service may be refused or warranty may be void if the installation is not compliant.

1.2.3. Safety and O.H. & S. Requirements

- It is the responsibility of the dealer / installer to ensure the environment is safe for the installer to carry out the installation. A risk assessment should be carried out in conformance to state codes of practice. An industry guide to “safe Work at Heights” is available from Climate Technologies.
- It is the responsibility of the dealer / installer to ensure safe access to the unit can be achieved for service and that the access conforms to the relevant standards and codes.
- It is the responsibility of the dealer / installer to ensure the roof is provided with access footings and platform where the pitch of the roof is unsafe for service access.
- It is the responsibility of the dealer / installer to ensure harness anchorage points are provided where units are located on a roof greater than single story or if the pitch and roof construction do not allow safe access. See Australian Standard 1891.4:2000 Part 4 Selection use and maintenance, Table 2.1.

1.3. Before Commencing

- Packaging – check there is no damage before removing packaging. Damaged units should not be installed. Climate Technologies should be contacted prior to installation. Careless transportation by installer will not be covered by warranty.
- Do not install damaged products. Contact your nearest Climate Technologies office for further advice.

  NOTE: ***These 3 appliances VSS55, VSM65 & VSL75 have fan speed turn down ability to adjust their air output to match unit sizes of VSS50, VSM60 & VSL70 as calculated in the Bonres system design. Installers should adjust fan speed accordingly to the design requirements.***

  Installed damaged products will not be covered by warranty.
- Have you got all the system components?
- Have you got the right unit?
- Does the system design conform to the minimum specification of Bonaire’s specification and as such fall in line with sound engineering design practices.

2.0 Unit Location

2.1 Unit Location Check List

- **EPA** - A correctly installed unit will perform to specification on sound pressure radiated noise. As an installer, you have a professional obligation to ensure that every practical and reasonable effort is made to install this product to best practice guidelines and ensure that any operational noise does not affect neighbours. Complying with EPA / council by laws for noise abates is the responsibility of the dealer / installer / owner.

  NOTE: Do not mount the unit on a section of roof that slopes towards a neighbour's property.

- Place the unit well away from sources of smoke, dust and objectionable fumes so that only clean, fresh outside air will be drawn into the unit. Reference should be made to relevant gas codes and state plumbing regulations.

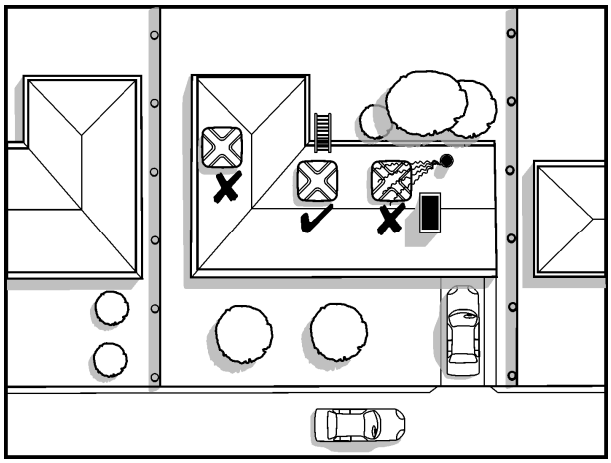
- Check the proposed location to ensure that building members are structurally capable of supporting the operating weight of the air conditioner. You may need to consult the roof truss manufacturer.

- The unit must be installed in a position that gives safe access for service. It is the responsibility of the dealer / installer to ensure safe access to the unit can be obtained for servicing the product.

- Where roof height, pitch or construction will cause OH&S concerns as previously mentioned, service footing supports / platform and or harness anchorage must be provided for safe service.

  NOTE: The manufacturer and its service providers reserve the right to refuse service unless safety and accessibility to the unit can be guaranteed.

- The cost of any extra equipment required to give access to the unit for servicing or warranty repairs is the responsibility of the owner.



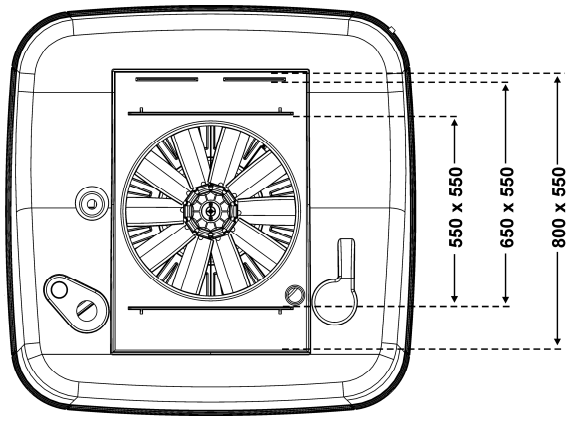
The unit should face into the customer's back yard, as low as possible on the roof, with easy, unobstructed access. Keep the unit away from chimneys, flues and vents that will pollute the filter pads and the fresh air being drawn into the house.

1.1. Installing the Dropper Duct

All Bonaire Fresh Air Conditioners are designed to be fully supported by a metal dropper duct. Metal dropper ducts must be designed, located and fixed to comply with the relevant building codes. Plastic dropper ducts are **not** recommended for use.

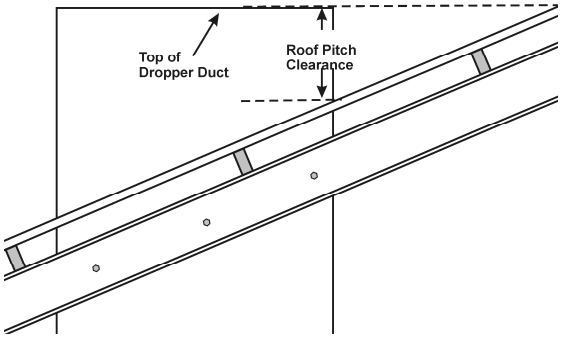
Recommended Dropper Sizes

Model	Dropper Duct Size
VSS50/55 VSM60/65	550mm x 550mm
VSL70/75	550mm x 800mm

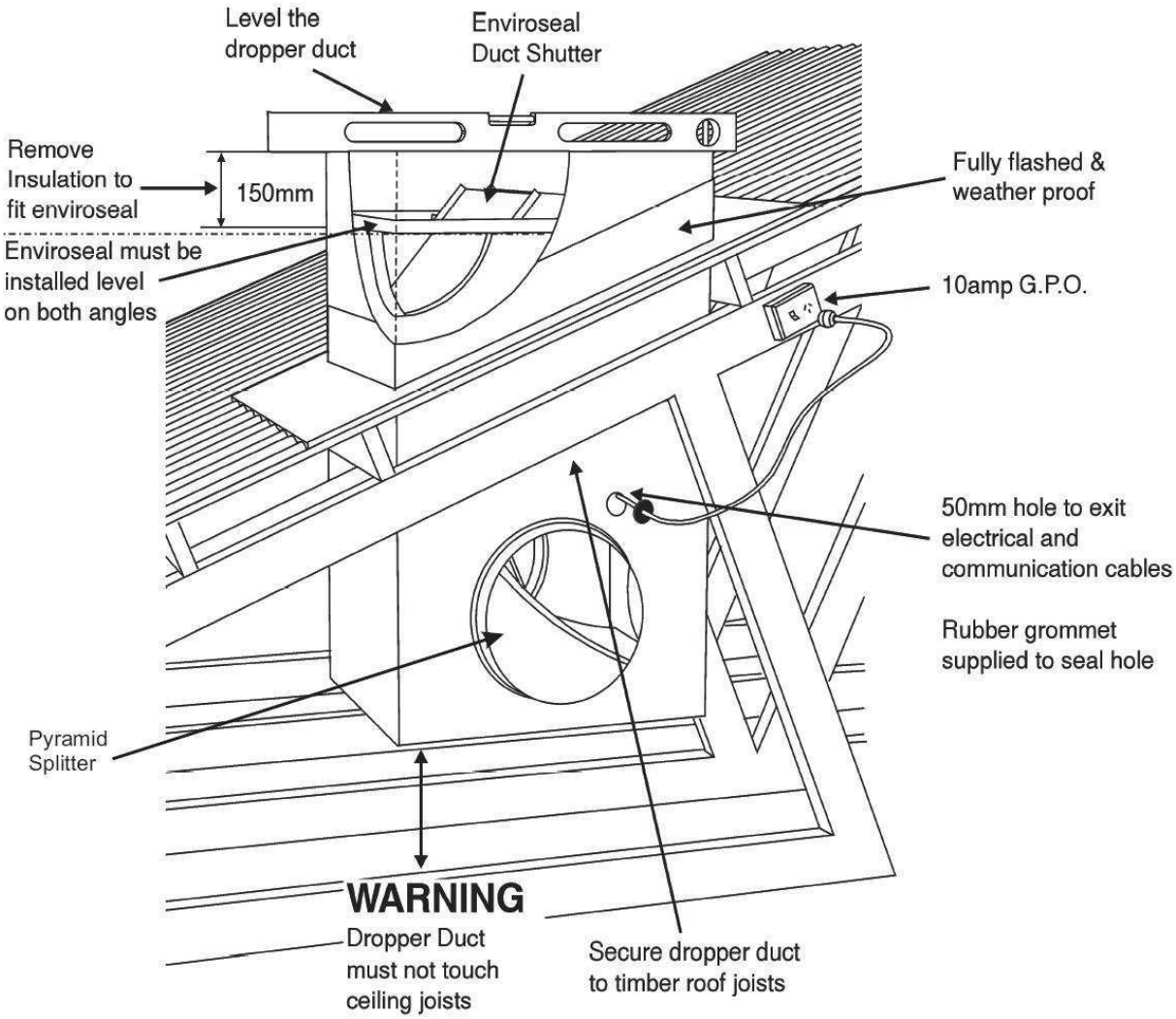


Dropper Duct Height - Roof

Roof Pitch	Clearance Height
17°	165 mm
22.5°	185mm
25°	195 mm
36°	240mm

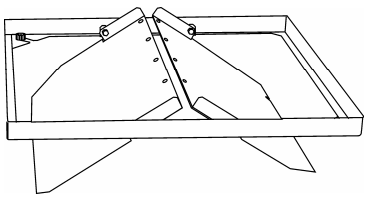


- Use the recommended dropper duct as advised above.
- The dropper must be installed square and level.
- It should not touch ceiling joists or other structural members that allow noise and vibration to be transmitted into the building.
- Ensure the dropper duct is installed so the unit does not touch the roof.
- Fix the duct dropper to the roof structure so that it's secure and vibration free.
- All droppers must be fitted with a splitter pyramid in the base to ensure correct airflow.
- All ductwork, electrical cables, water pipes and drains must be fully flashed and sealed to prevent the entry of water into the building.
- Plastic dropper ducts should not be used as these may void warranty.


Level the dropper duct
Enviroseal Duct Shutter
Remove Insulation to fit enviroseal
150mm
Enviroseal must be installed level on both angles
Fully flashed & weather proof
10amp G.P.O.
50mm hole to exit electrical and communication cables
Rubber grommet supplied to seal hole
Pyramid Splitter
WARNING
Dropper Duct must not touch ceiling joists
Secure dropper duct to timber roof joists

3.2. Installing the Enviroseal Duct Shutter

STEP 1 The Enviroseal duct shutter must be installed a minimum of 150mm below the top of the dropper duct. If the dropper duct is fitted with insulation, remove insulation to give the shutter free operation.



STEP 2 Ensure the Enviroseal is secured horizontally on both angles.

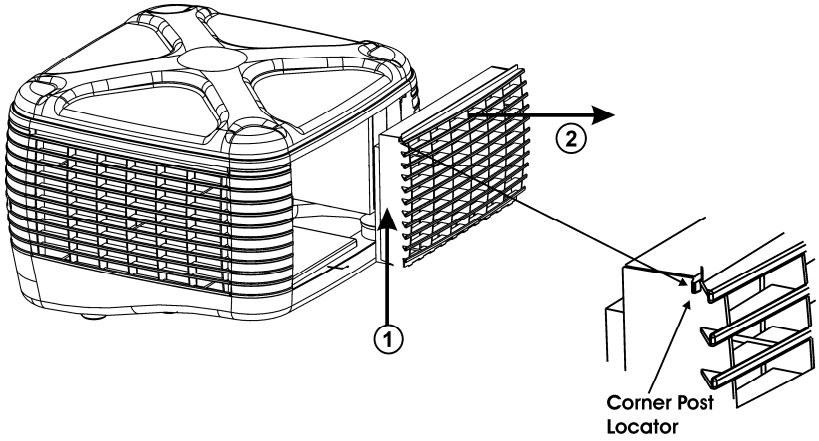
STEP 3 Ensure electrical cables are not draped across the top of the Enviroseal mechanism

STEP 4 Ensure the Enviroseal is installed the correct way up. The Enviroseal flaps must open downwards.

For more details refer to instructions in the Enviroseal kit.

3.3. Installing the Air Conditioner

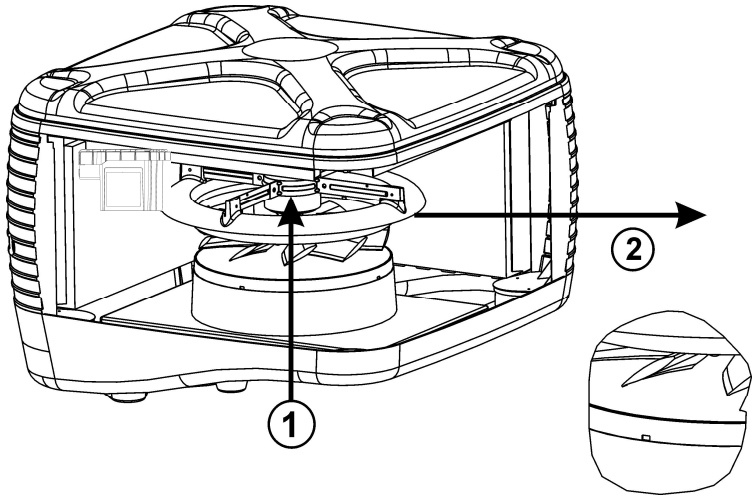
- Remove 4 Louvre panels from unit and place in a safe place to ensure no damage. To remove Louvre:



STEP 1. Lift the Louvre assembly up approximately 15mm over the corner post location.

STEP 2. Tilt the Louvre back from the top of unit and remove.

- The venturi / fan assembly can be removed to assist in carrying the unit on the roof. To remove the fan / venturi assembly:-



STEP 1. Disconnect the motor loom from the control box in unit.

Caution: Ensure motor wires are reconnected correctly otherwise the product warranty may be void.

It is also possible to remove the electrical control box and pump assembly to avoid disconnecting the electrics.

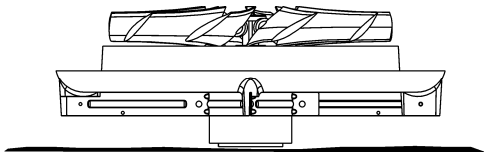
STEP 2. Remove fan / venturi assembly by releasing the venturi from the location notches lifting vertically. (There are 4 location notches holding the venturi in place.)

STEP 3. Carefully remove fan from the cabinet, not bumping the fan assembly.

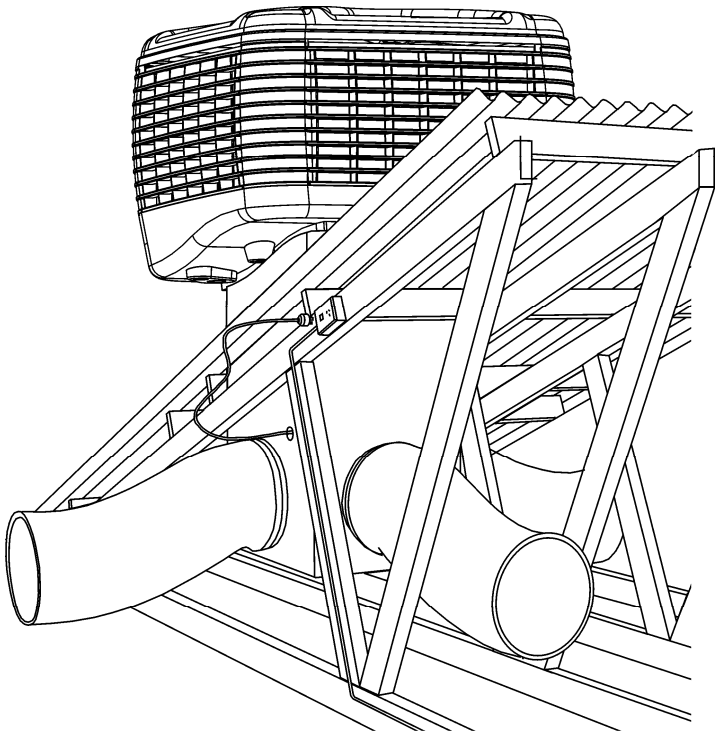
3.0 Unit Installation

NOTE: Handle the fan/venturi assembly with care, as the fan blade is not protected by the venturi once removed.

- Store the fan / venturi assembly in a safe area until final installation to ensure no damage. Store the fan upside down (on the motor) ensuring no damage to the fan assembly. (Do not store in the gutter.)



NOTE: Warranty claims for damaged motors, impellers or venturis will not be recognised if the motor / venturi have been damaged during installation.



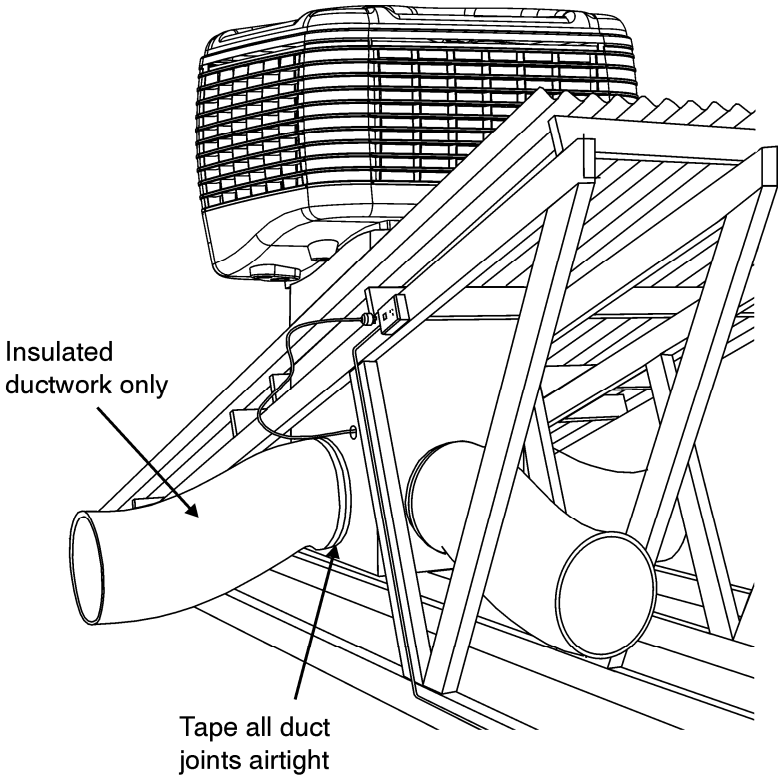
- Lift unit chassis onto the roof. When locating the unit onto the dropper duct, ensure the water reservoir is on the low roof side of the dropper duct.
- Fit the unit level on the dropper duct to ensure even water distribution.
- Check the unit is located correctly on the dropper duct. Locate the unit on the correct chassis duct location points for the appropriate dropper duct size. The unit should be central on the dropper duct.
- Fix the unit into position with self-tapping type screws by screwing through the unit duct adaptor flange and into the dropper duct. A minimum of 4 screws should be used on each accessible side of the unit.

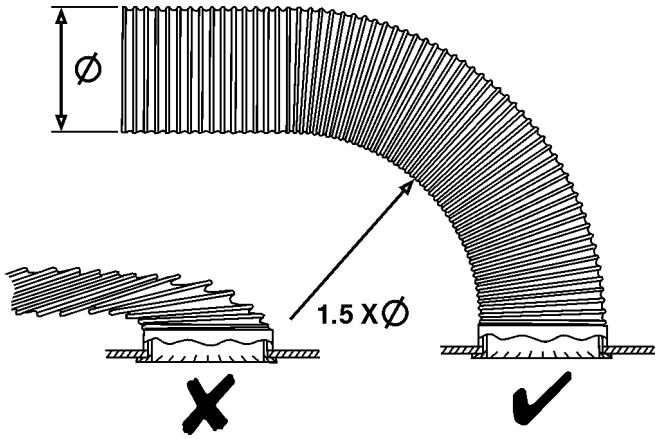
- Lift the fan deck onto the roof and reinstall into the unit. Ensure the venturi is correctly rotated for the motor wiring loom and has snapped into the location notches. Spin fan blade by hand to ensure that the blade does not touch the inlet ring.
- Reconnect the fan loom to the control box.
- Connect communication cables to the control box
- Feed the communication cable and the 240-volt plug and cable set through the 50mm electrical entry drilled into the dropper duct. Ensure the 50mm rubber grommet supplied is used to ensure an electrical hazard is not created.

3.4 Installing the Duct Work

- Use only insulated ductwork to a thermal resistance of insulation minimum of R1.0, designed and installed to 'BONRES' System Design guidelines. All bends must have a minimum radius of 1.5 times the diameter. All joins must be taped airtight.
- Flexible ductwork connected to the dropper duct must be designed and installed to the 'BONRES' System Design Guide in conjunction with industry based best guidelines.
- Cut flexible duct to the correct length to ensure no excess duct is left in the system. This will ensure minimum system resistance and maximum air flow.
- All duct work should be streamlined. Avoid sharp angles that will reduce airflow.
- The minimum bend radius is 1.5 times the duct diameter
- The last bend to each ceiling register must be a smooth radius so that airflow is even into the room.
- Do not squash duct work to fit through small openings, as airflow will be restricted. Find a better location.
- If more than 6 metres of flexible duct work are required in one length, the next size up flexible duct must be used.
- All duct work in ceiling spaces or hot areas must be well insulated.
- All external exposed duct work must be weatherproofed.
- All duct work must be taped airtight.

3.0 Unit Installation





The last bend to each ceiling register must be a smooth radius so that airflow is even into the room

4.0 Connections

4.1 Water Management

- Water bleed rates or the drain cycle times must be set to a rate appropriate to the local supply water conditions. No scaling should be evident where the drain cycle / bleed rates are set correctly. This will ensure maximum cooling and filter pad life, reduced opportunity for scaling and therefore less regular maintenance.

NOTE: ***Where water quality is of high mineral content e.g. bore water, bleed off will be required in conjunction with a regular timed draining cycle.***

4.2 Inlet Water Connections

4.2.1 Fitting the Float Valve

STEP 1 Remove nut from float valve assembly.

STEP 2 Ensure rubber washer is fitted inside the tank on the float valve. Fit float valve assembly in tank.

STEP 3 Fit nut to the valve on the underside of the tank. Do not over tighten.

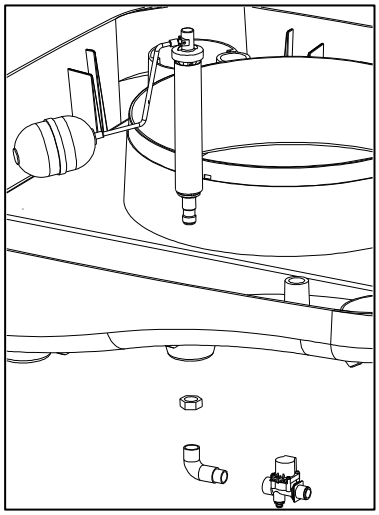
NOTE: ***In areas of low water pressure it may be necessary to remove the water flow restrictor from the inside of the valve. Minimum water pressure required to operating the float valve is 100 kPa.***

STEP 4 After the nut has been tightened, ensure the ball is not contacting the filter pad, the side of the base of the unit or the Bonaire Aquamiser. It should be positioned central.

STEP 5 Fit elbow supplied to the float valve.

STEP 6 Fit the 24-Volt AC water solenoid valve to the elbow (Direction- Horizontal Not vertical).

STEP 7 Fit Flexible Connector to solenoid valve



4.2.2 Connecting the Water Supply

- The water supply pipe work and connection to the evaporative air conditioner must be installed by a licensed plumber and conform to AS 3500, state & local plumbing regulations.
- Ensure water pressure to the appliance does not exceed the maximum static pressure of 500kPa (50 m head) as per AS 3500 (section 3.3)
- Unit water connection is a ½" BSP fitting. Use the flexible connector supplied for the connection between the isolating cock and the solenoid / float valve.

NOTE: ***In areas where water pipes freeze, a low level drain tap or pressure expansion control valve provision will be needed to drain the water piping to prevent damage to the air conditioner. The customer should also be advised on its operation by the dealer / installer.***

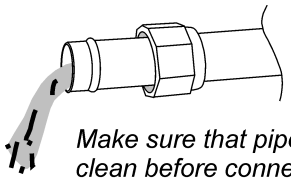
4.0 Connections

- Ensure the water supply pipe is of the correct length and is secured to prevent tension on the solenoid / float valve fittings.
- The supply pipe should be 12mm copper pipe or similar approved. A ¼ turn ball isolating valve must be installed on the supply pipe near the unit for ease of maintenance. Do not use duo or non-return valves of any kind including stop taps with jumper washer.

NOTE: ***Non return type valves can have an effect on the operation of the water solenoid valves. Lock up and damage can be caused. Non return valves are not required as the product conforms to MP52 Spec 101:2001 Plumbing safety licences.***

- Ensure connection in to cold water supply.
- Before connecting the supply pipe flush it of any swarf or debris that may cause the float valve or solenoid to leak.

NOTE: ***Failure of the Solenoid valve or Ball Float due to debris or swarf will not be covered by warranty and is therefore the responsibility of the installer / owner.***



Make sure that pipework is clean before connecting.

4.3 Drain Connections – Bonaire Aquamiser

4.3.1 Fitting the Bonaire Aquamiser

The Bonaire Aquamiser connection size is 2" BSP.

STEP 1 Remove the rubber washer from Bonaire Aquamiser Assembly.

STEP 2 Place the rubber washer under basin and fit the Bonaire Aquamiser assembly.

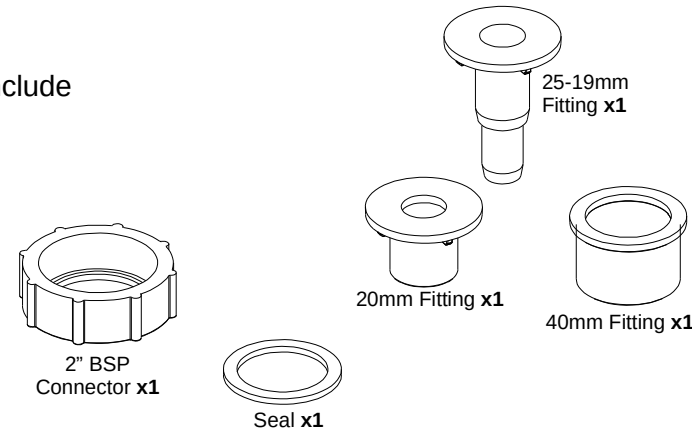
NOTE: ***The Aquamiser sticker must face the corner post and solenoid lead must not be touching ball float.***

STEP 3 Fit the drain fitting to the Bonaire Aquamiser thread on the underside of the tank and tighten ensuring no leaks.

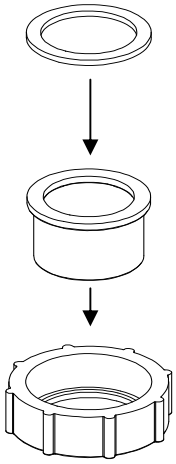
Select appropriate drain connection for your local plumbing regulations *(40mm Recommended)*

The Bonaire Aquamiser Kit should include

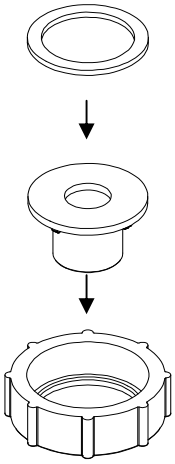
1 of each of the following items:



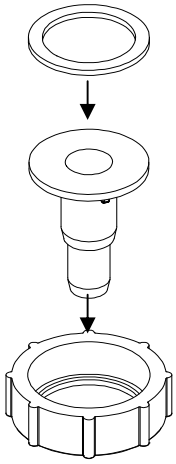
4.0 Connections



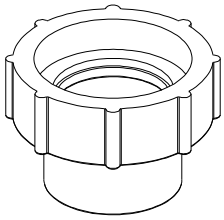
40mm option



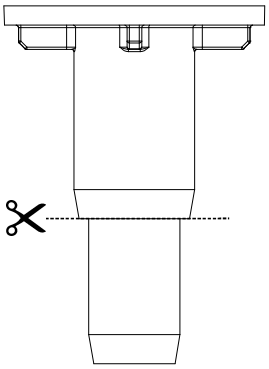
20mm option



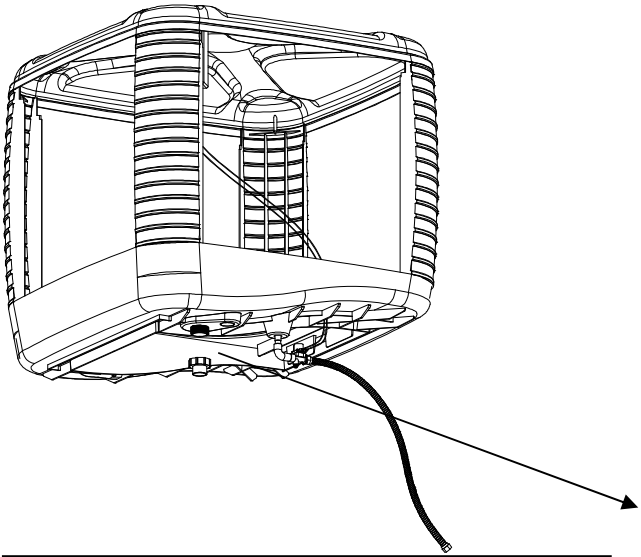
25-19mm option

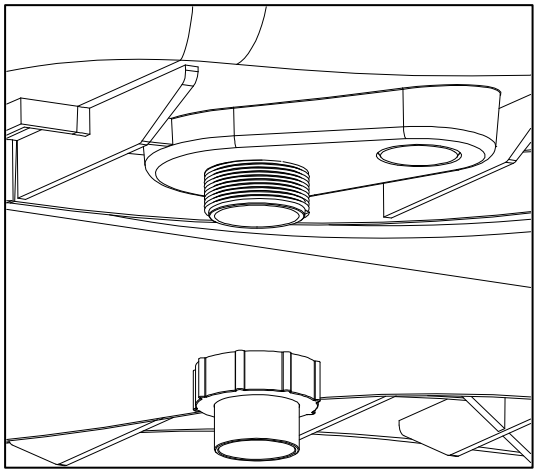


When the drain fitting components are assembled together, it should look like the above



To use the 25mm option on this fitting, simply cut off the 19mm tail as shown





Screw the drain fitting onto the Bonaire Aquamiser from the underside of the tank as shown

4.0 Connections

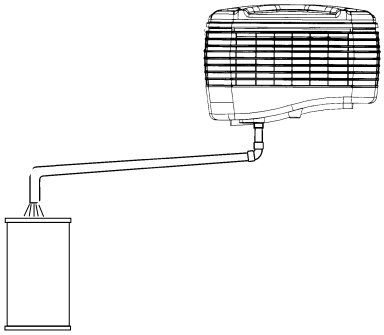
4.3.2 Drainage Provisions

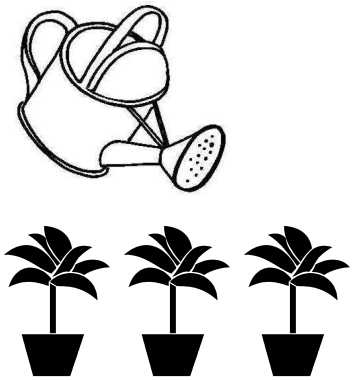
The discharge pipe must have an internal diameter of no less than the internal diameter of the unit connection provision supplied by the manufacturer. Provided are a 40mm, 20mm and a 25-19mm fitting for the Bonaire Aquamiser. The following diagrams are typical and provide guideline for drainage connections to the evaporative cooler in accordance with the plumbing regulations and standards.

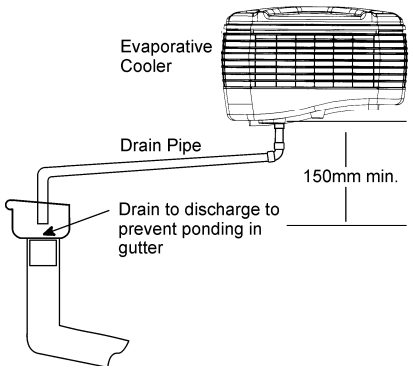
Note: Discharge water must be managed in accordance with State and Local Government statutory requirements and local by laws.

ECO FRIENDLY SUGGESTION

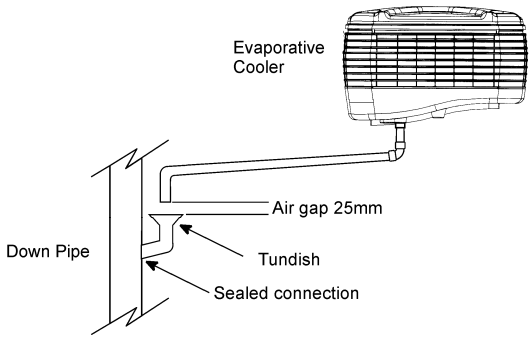
For water conservation purposes, the waste water from the evaporative unit could be stored and used at a later date for watering pot plants.



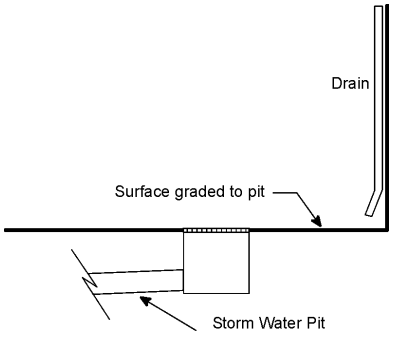




OPTION 1 A discharge point to a roof gutter pop outlet, providing the downpipe is not used for the collection of water for potable use



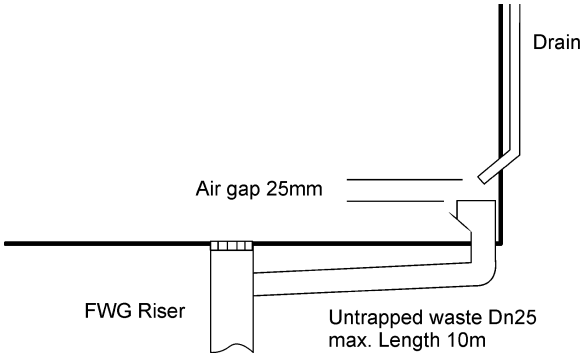
OPTION 2 Direct to downpipe via a tundish, providing the downpipe is not used for the collection of water for potable use



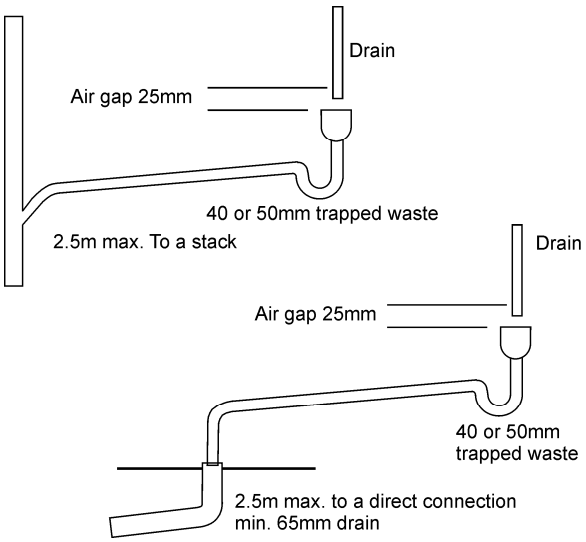
OPTION 3 A surface stormwater drainage system provided the surface is graded away from the building and ponding does not occur and the discharge does not present a safety risk to pedestrians (eg. across a footpath)

4.0 Connections

OPTION 4 A sanitary drainage system via a tundish in one of the following forms in accordance with AS/NZS 3500.2.2 - 1996 clause 4.6.7.8 & 11.22.



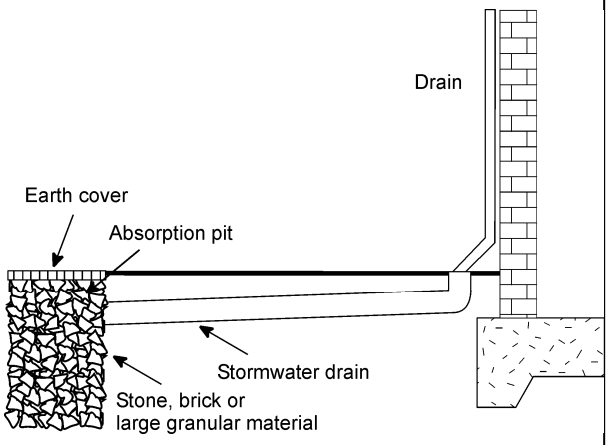
i) To a floor waste gully



ii) Direct to sanitary drain

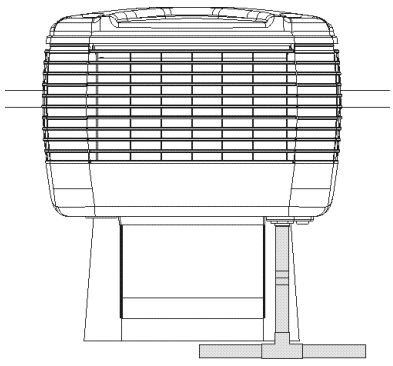
OPTION 5 An absorption pit. Provided the following conditions can be met:

- Only permitted where no sanitary or surface water drainage is available.
- The pit can only be constructed in permeable ground
- Of a size appropriate for the volume of discharge
- Located so the discharge water will not cause damage to buildings by changing moisture conditions



OPTION 6 To a suitable water spreader

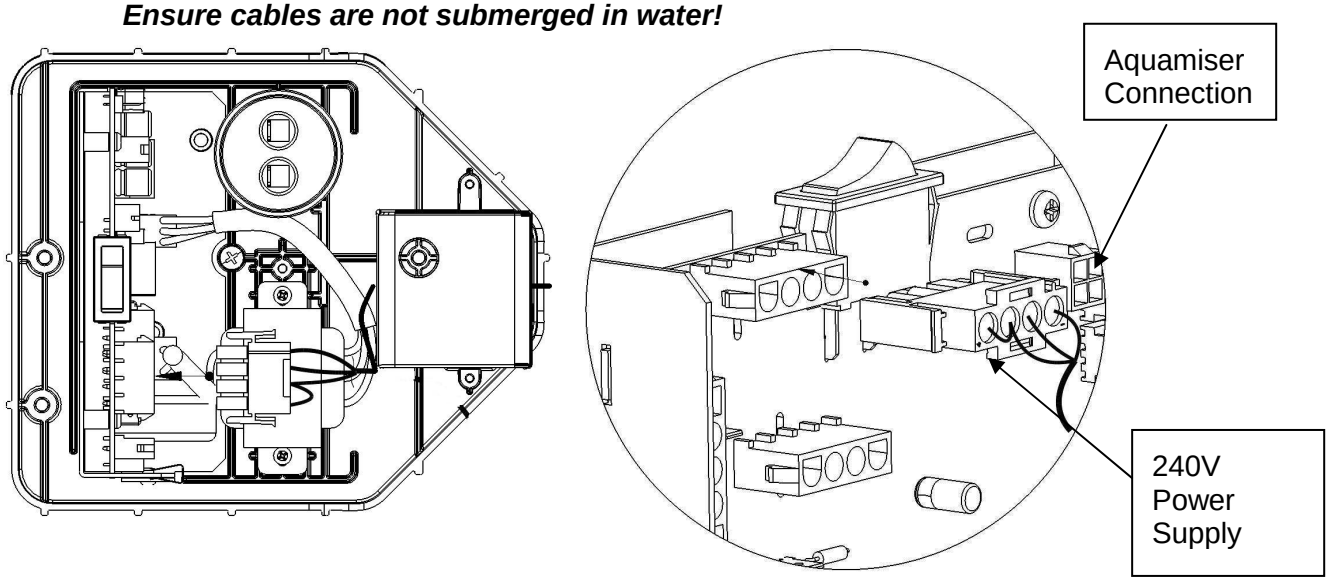
- Tiled rooves only
- Spreader design should be such that water will not spill over the gutter
- Providing the roof is not used for the collection of water for potable use



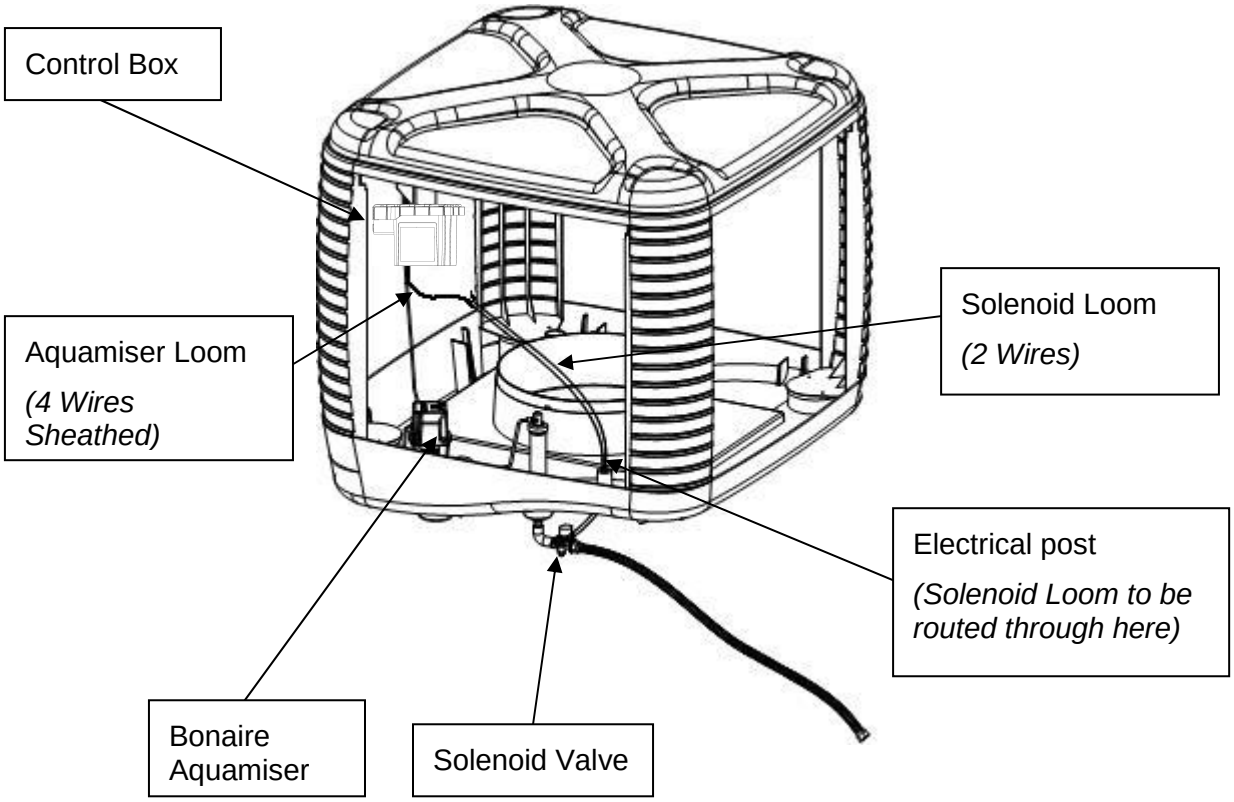
4.0 Connections

STEP 4 Fit the 240V cable between the solenoid and the control box routing it through the electrical post inside the tank. **Connections are not colour specific.**

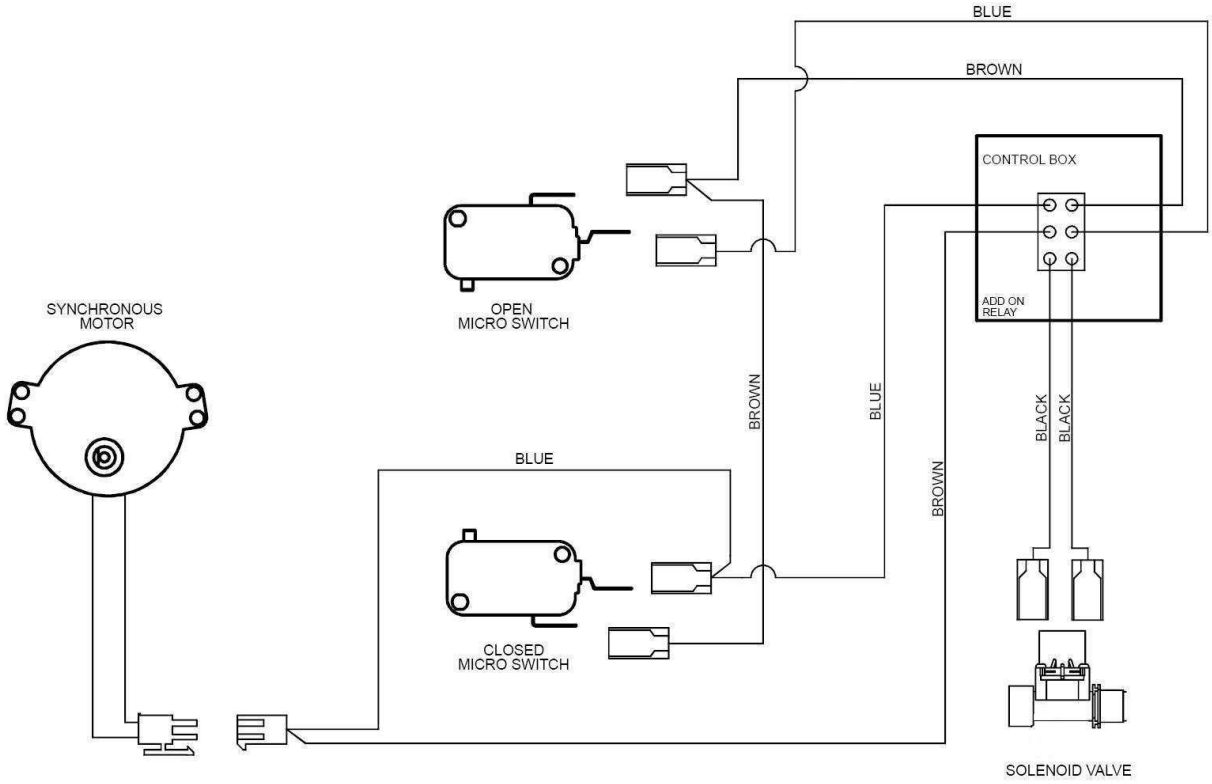
Ensure cables are not submerged in water!



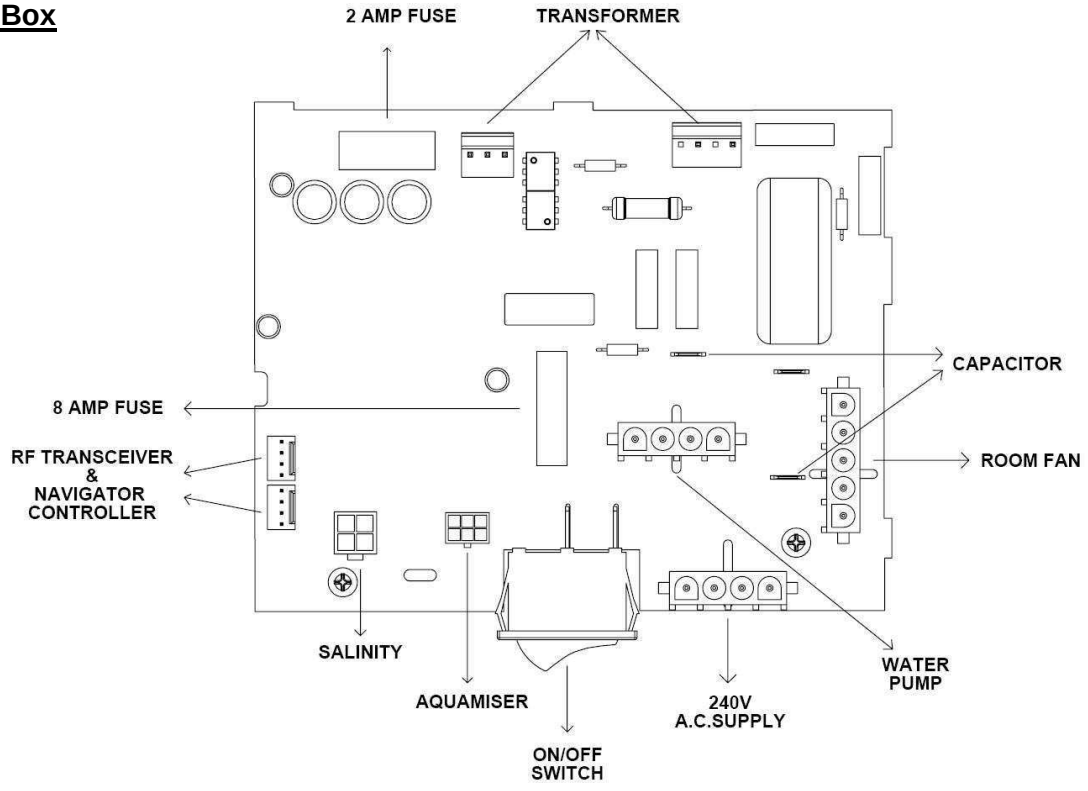
STEP 5 Connect electrical wiring from the Bonaire Aquamiser to the Control Box as shown below



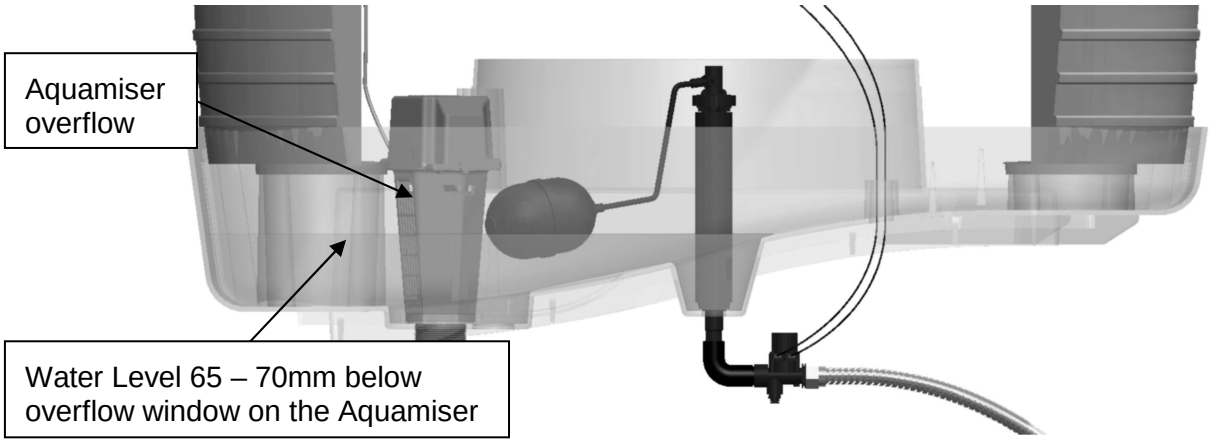
4.4 Aquamiser Wiring Diagram



Control Box



5.1 Water Levels



STEP 1 Turn the water on to unit and allow unit to fill. The water level should be 65mm to 70mm from the overflow window on the Bonaire Aquamiser

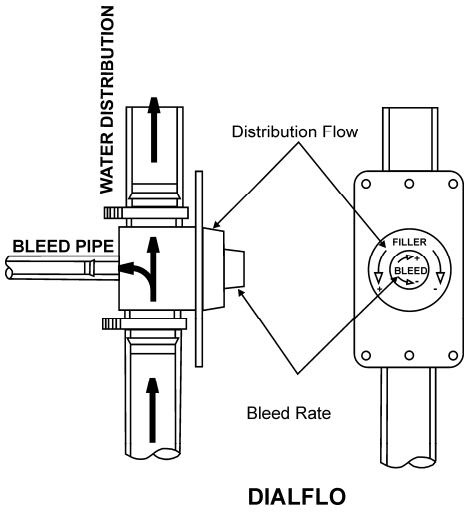
STEP 2 Turn the unit on and set the pre-cool function. This will activate the solenoid valve and allow time to check the float valve setting.

STEP 3 Adjusting the float valve ball: **While the float valve ball is factory set some adjustment may be required. Adjust with care.** To adjust the water level, simply screw the ball up or down the thread on the arm. (Do Not Bend the ARM)

STEP 4 Fit Louvre panels and check for even wetting of the filter medium.

5.2 Dialflow Settings

Filter Rate – Outer Knob



DIALFLO

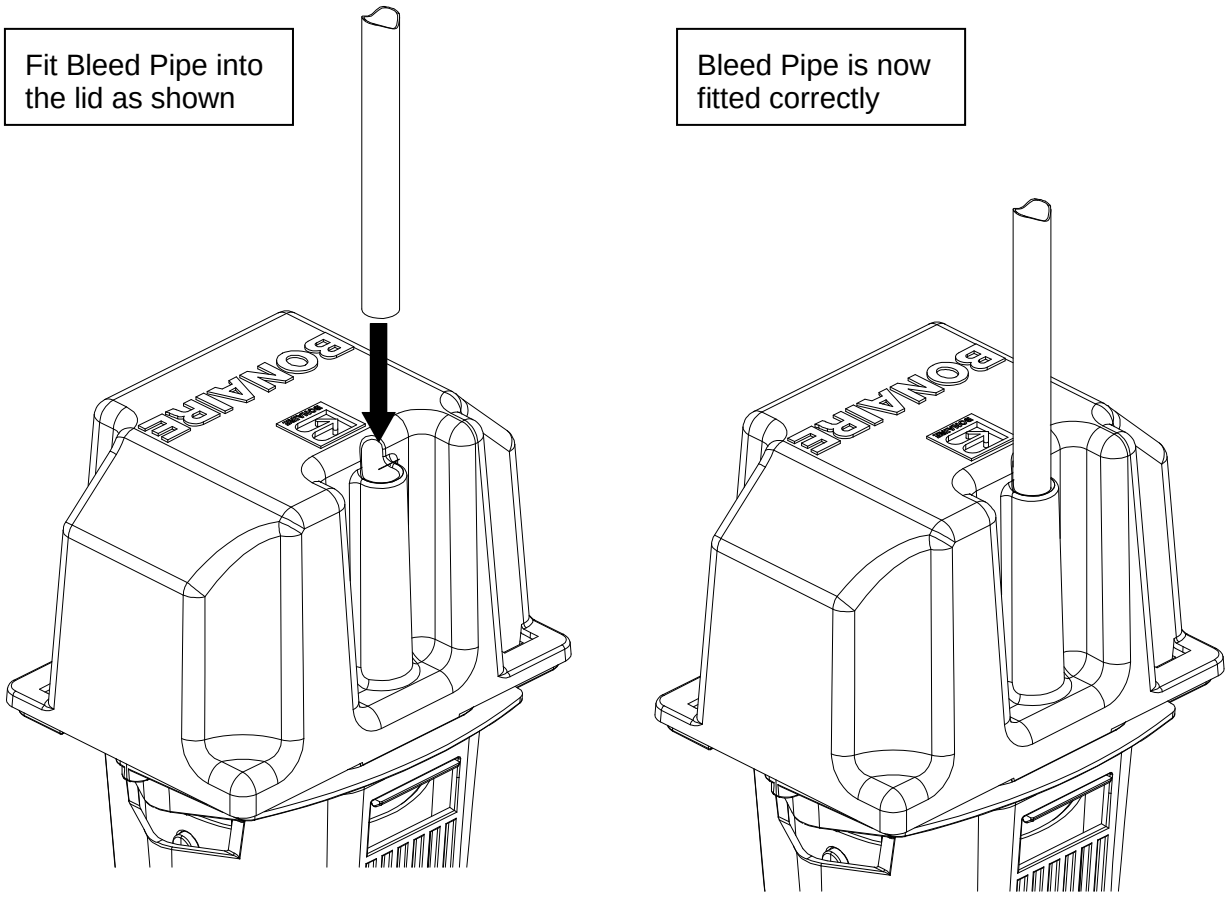
- Ensure the filter knob is opened to get water flow to the distributor. Turn Filter anti clockwise to increase water flow.
- If water lift off is noticed, the flow rate can be adjusted. Turn anti-clockwise to reduce the flow to the distributor.

Bleed off Rate (*if required*) – Inner Knob

- All evaporative air conditioners need some water bleed-off to prevent build-up of mineral deposits in the system. The correct setting of the bleed rate will ultimately govern the life of the unit.
- With normal mains water supply, bleed rate should be adjusted so that the discharge is not less than 10 litres per hour. Increased water hardness may require a higher bleed rate and increased maintenance

5.0 Commissioning

- A bleed off may not be required if the Bonaire Aquamiser is fitted and the water quality is below 300ppm. In which case the bleed rate should be set to completely off and the hose secured in bottom of basin.
- Always set the bleed rate after the flow rate has been determined.
- To set the bleed rate, hold the filter flow knob (Outer) at its current setting while adjusting the bleed rate (Inner Knob).



NOTE: It is the responsibility of the installer / owner to set a correct bleed rate (If required) to suit local water conditions and ensure that rate is maintained.

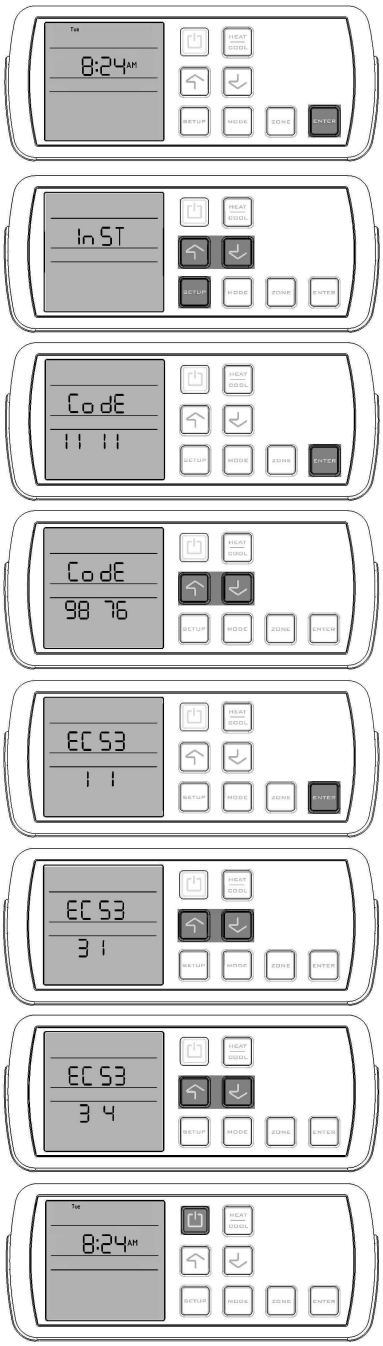
5.3 Bonaire Aquamiser Settings

Correct water management in an evaporative air conditioner is vitally important to the operation and longevity of the product. If the water management is not set correctly by the installer to the local water condition, warranty will be void. Maintaining correct water management is the responsibility of the owner of this appliance and warranty will also be void if correct settings are not maintained.

- Where a Bonaire Aquamiser is fitted and is set up for regular timed draining periods during operation, the bleed may not need to be switched off. Check the water quality and if it is below 300ppm Total Dissolved Solids (TDS), timed draining periods will be all that is necessary to maintain TDS concentration levels. Over 300ppm TDS you may need a combination of both bleed and drain. Please contact our technical support for more information if needed. (www.bonaire.com.au)
- Where a Bonaire Aquamiser is only used for the purpose of a dry sump when not in use, the bleed rate will have to be set for the conditions of operation.

5.3.1 Setting the Draining Cycle Times (Dump Interval)

In the setting of Draining Cycle Times, Navigator Control must be in the OFF mode. To set the Draining Cycle Time,

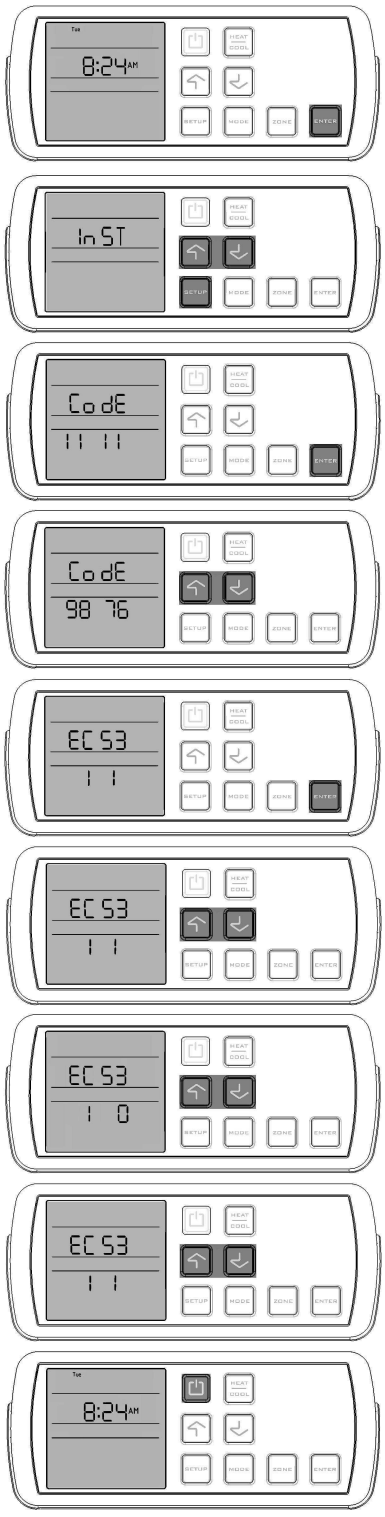


1. Press and hold the **ENTER** button for 3 seconds.
2. Press and release the "**UP**", "**DOWN**", and "**SETUP**" buttons in sequence.
3. The word "InST", "nSTA", "STAL", "TALL", "ALLE", "LLER" (Installer) will scroll across the upper part of the display. Press the ENTER button now to access.
4. When the **CodE** "**11 11**" appears input the code **"98 76"** using the **UP/DOWN** buttons and **ENTER** button to move on to the next digit.
5. The display will flash the type of unit and address of the unit. For example "**EC 53**" (**EC**- Evaporative cooler, **53**- Different number for every Unit) and "***1 1***" parameter on the screen. Press the **ENTER** button to go to the"**1 1**" parameter.
6. The display will flash the first number "**1**". Move to parameter "**3**" by pressing the **UP/DOWN** button then press the **ENTER** button.
7. The display will flash the second number "1". User can set "0, 1, 2, 4, 8 or 12" hours by pressing **UP/DOWN** button. The default dumping time is 4 hours.
8. Press **ON/OFF** button to finish.

The draining cycle times have now been set.

5.3.2 Setting the Drain Off delay time (Dump Delay)

DRAIN OFF Delay Time gives the option for immediate draining of the water from the tank or a one hour delay after the unit has been turned OFF. Setting the 1 hour delay is preferable if the unit is going to be used in thermostat (AUTO) mode. To set the 1 hour delay:



1. Press the **ENTER** button for 3 seconds.

2. Press the "**UP**", "**DOWN**", and "**SETUP**" buttons in sequence.

3. The word "InST", "nSTA", "STAL", "TALL", "ALLE", "LLER" (Installer) will scroll across the upper part of the display. Press the ENTER button now to access.

4. When the **CodE** "**11 11**" appears input the code **"98 76"** using the **UP/DOWN** buttons and **ENTER** button to move on to the next digit.

5. The display will flash the type of unit and address of the unit. For example "**EC 53**" (**EC**- Evaporative cooler, **53**- Different number for every Unit) and "**1 1**" parameter on the screen. Press the **ENTER** button to go to the "**1 1**" parameter.

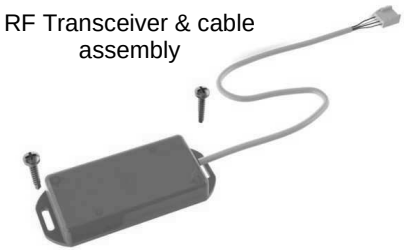
6. The display will flash the first number "**1**". Enter "**1**" by pressing the **UP/DOWN** button and press the **ENTER** button.

7. The display will flash the second number "1". User can set "0, 1" value by pressing the **UP/DOWN** button. Set "0" for immediate draining of water from the tank or "1" for 1 hour dump delay. (If an Aquamiser is connected the user can set "0, 1, 2, 3, 4, 5" hours dependant on Hour setting parameter). The default HOUR is 1 and default day is 1.

8. Press **ON/OFF** button to finish.

NOTE: ***It is the responsibility of the installer to set the correct draining period to suit local water conditions.***

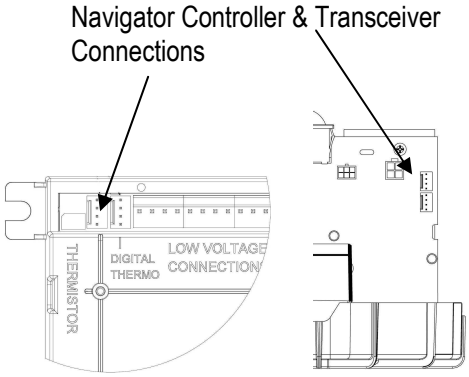
5.4 Installation of Transceiver



The transceiver cable connects to the control box as shown.

Fully extend the transceiver cable (4 meters) and attach the transceiver housing to a solid surface such as a rafter or vertical column using the two screws provided. Avoid direct contact with metal surfaces. Connect the transceiver plug to one of the two thermostat connections on the control box.

When the installation is complete and the power to the cooler is turned on, a green LED in the transceiver case should be visible confirming it is connected correctly and is ready for pairing with a Navigator controller.



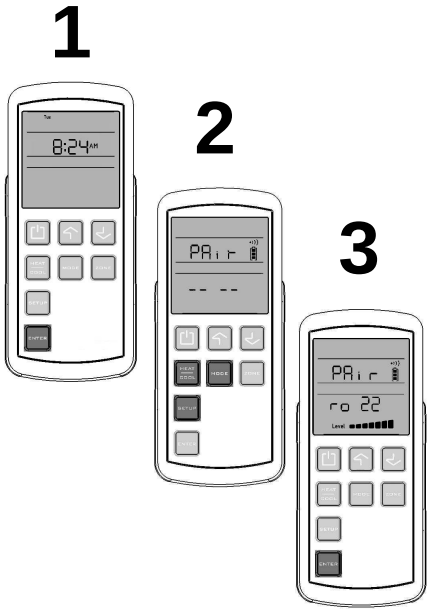
⚠ ***To ensure trouble free operation, the transceiver housing & connecting cable should not be installed within 200mm of any power cables or other radio transmitting devices. The transceiver housing should be placed 1m away from any metal object.***

⚠ ***Do not screw the transceiver to the back of the control box; it must be run into roof space.***

5.5 Pairing the Navigator Controller (Remote Only)

The BONAIRE Navigator Controller and transceiver does not have any pairing information when they are delivered from the factory.

On the first power up, the transceiver will request to PAir with Navigator Controller for period of a 30 min window and its green light will be illuminated. If it does not PAir within that time, it will PAir on the next power up. Put the Navigator Control in pairing mode -



1. Press & hold the **ENTER** button for 3 seconds.
2. Press the **Heat/Cool**, **Mode** & **Setup** buttons in sequence. The display will flash the **"PAir".**
3. After a few seconds the Navigator Controller displays the "**ro XX**" ("**XX"** is the unique serial number. For example "ro 22"). It will also display the strength of signal.
4. Press the **ENTER** button to pair the transceiver and the Navigator Controller.

   NOTE: ***Wait until the backlight turns off and press any key after 2 minutes.***
5. Press the **ON/OFF** button to go to the main display.

5.6 Operation of Multiple Navigator Controllers

The Navigator control system is capable of supporting up to 4 controllers. By default, the system will allow one controller to control the appliance or multiple appliances. Certain parameter set ups must be made to configure multiple controllers.

The options available are

- 2 wired Navigators only
- 1 wired Navigator and up to 3 Remote Navigators.

5.6.1 Multiple Wireless Remote Controllers

In a multiple Navigator controller system, the other controller may be joined to a master by putting the slave controller into a PAir mode. It will then send out a PAir request to the master controller. The master controller is then put in a JOin state and can then join the request to set up a Navigator system.

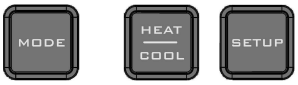
5.6.2 Joining Navigator Controller (JOin)

Controllers requesting to JOIn another controller in the Navigator system, can be put in the join mode as follows.

1. To enter the JOIn state, press and hold the **ENTER** button for 3 seconds & release.
2. Press and release the, **MODE, HEAT/COOL** and **SETUP** buttons in sequence.
3. The master wireless Remote controller should display JOin state to receive a command from the other handset to JOIn the Navigator system.
4. The slave controller should be placed into a Pair state to join with the master controller. The slave controller should display Pair. (Refer “Paring the Navigator Controller”).

1

2



3

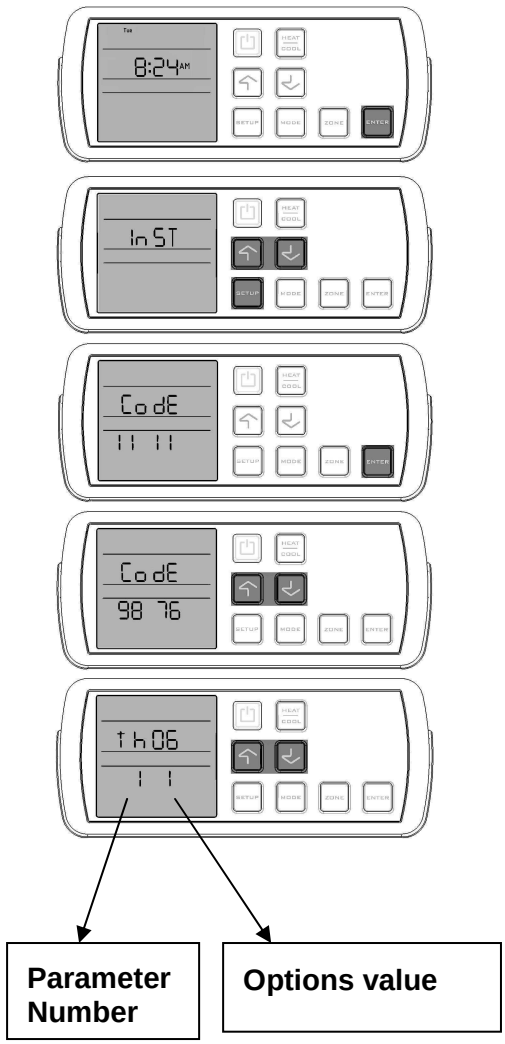
5.6.3 Accessing Installer Navigator Controller Setups

NOTE: ***The Navigator Controller must be in the OFF status to enter into the setup mode.***

1. Press and hold the **ENTER** button for 3 seconds.
2. Press & release the ↑ then ↓ then **SETUP** buttons to enter the installer set up mode.
3. The word “InST”, ”nSTA”, ”STAL”, ”TALL”, ”ALLE”, ”LLEr” (Installer) scrolls across the upper part of the display. Press the **ENTER** button.
4. When the **CodE “11 11”** appears, then set the code to “**98 76**” using the ↑ and ↓ buttons to select each digit, and press the **ENTER** button to move to the next digit

   NOTE: The Navigator Controller will display the abbreviated name of the appliance such as “EC XX” for Evaporative Cooler, “HE XX” for Central Heater or “th XX” for the Navigator controller settings (“XX” is the unique serial number). For example “th 06”.
5. Use the ↑ and ↓ buttons to scroll to the “**th XX**” and then press the **ENTER** button to access Navigator Installer setup.

   The display will now show digits “1 1”. The lower left digit is the parameter number and the lower right digit is the parameter option value. Parameter numbers and option values can be found in the Navigator Controller Installer Parameters Table.
6. To select the parameter number use the ↑ and ↓ buttons to find the desired parameter and press **ENTER.**
7. Adjust the option value (See Navigator Parameter Table) to the required value and press **ENTER.** This will set the option value and return you to the parameter number selection menu.
8. When finished press the **ON/OFF** button to exit.



5.6.4 Navigator Controller Parameters Table

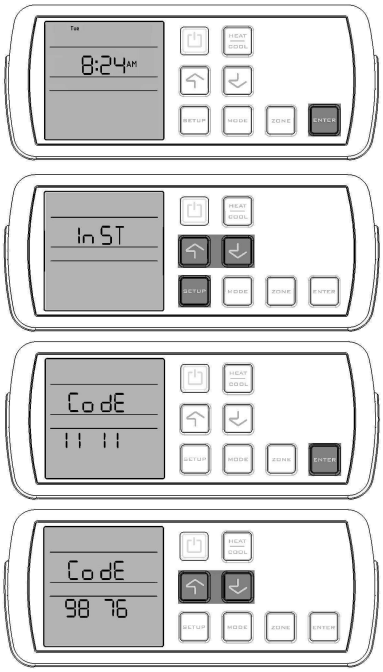
th parameter Table (“th XX”)

Parameter	Description	Default	Definition	Options Values
1	Un switched Zone Option	1	Tells system if there is a common zone present	1= common zone present. 0= no common zone (Note that a cooler is usually installed into the common zone)
2	Switched Zones	15	To display all available switched zones	15= Zone 1, 2,3 & 4 6 = Zone 2&3 127 = 8 Using **ZONE** and 🡻🡹 buttons whilst in this parameter will set the number
3	Temperature Display zone	0	Selects which zone the Navigator will display the temperature of	0 –Common zone 1-8 Zones 1-8
4	Temperature Measurement -Un switched Zone option	1	Determines if the navigator is measuring the temperature in the common zone	1Measuring common zone. 0= Not measuring common zone
5	Temperature Measurement - Switched Zones	15	Determines which of the switched zones the Navigator is measuring,	15= Zone 1, 2,3 & 4 6 = Zone 2&3 127 = 8 Using **ZONE** and 🡻🡹 buttons whilst in this parameter will set the number
6	Not Used	0		
7	Not Used			
8	RF Network (RF handset only)	0	The current RF network number	0 = not assigned Any other = actual network
0	Not Used	0		

5.7 Navigator Controller Installation – Evaporative Cooler

5.7.1 Accessing Evaporative Cooler Installer Setup

NOTE: ***The Navigator Controller must be in OFF status to change the parameters.***



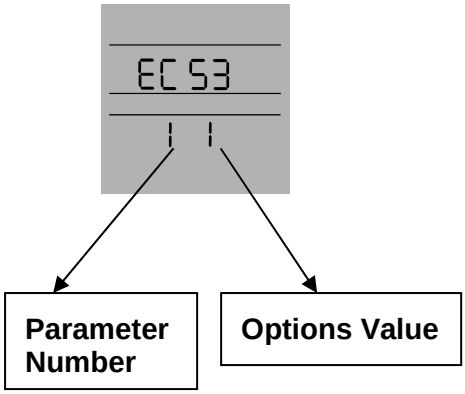
1. Press and hold the **ENTER** button for 3 seconds.
2. Press & release the ↑ then ↓ then **SETUP** buttons to enter the installer set up mode.
3. The word "InST", "nSTA", "STAL", "TALL", "ALLE", "LLEr"(Installer) will scroll across the upper part of the display. Press the **ENTER** button now to access.
4. When the **CodE "11 11"** appears input the code "**98 76**" using the ↑ or ↓ buttons to change each digit, and press the **ENTER** button to move on to the next digit.

NOTE: ***The Navigator Controller will display the appliance controller ID "EC XX" for an Evaporative Cooler ("XX" is the unique ID number).For example "EC 53".***

5. Press the **ENTER** button when "EC XX" appears.

The display will now show digits "1 1". The lower left digit is the parameter number and the lower right digit is the parameter option value. Parameter numbers and option values can be found in the EAC Installer Parameters Table.

6. To select the parameter number use the ↑ or ↓ buttons to find desired number and press **ENTER.**
7. Adjust the option value (see EAC parameter table) to the required value and press ENTER**.** This will set option value and return you to the parameter selection menu.
8. When finished press the **ON/OFF** button to exit.



5.7.2 EAC Installer Parameters Table

EC Parameters Table (“EC XX”)

To access the installer setups refer the section 5.7.1.

*Day Hour Flag. Only used where salinity sensor and water level sensor used.

Incorrect setting of this flag may result in damage to the EAC, its components and also damage can occur to property. This will not be covered by manufacturer’s warranty.

The Days option is not to be used for the Sump dump valve system.

The Days option can be used if the EAC is operating on rainwater (low TDS)

Parameter	Action	Definition	Options/Values	Default
1	Drain delay after shut down	Delay between pump off and water drain.	0 or 1 Hr	1 Hour
2	Pre Cool time	90 second pre cool after pre fill – No fan	0 = Off 1 = On	On
3	Drain Interval	Run time between forced drain periods.	1-12Hrs / 1-12 Days*	4 Hours
4	Pre fill time	60 second pre fill- Solenoid - No pump	0 = OFF 1 = On	On
5	**DO NOT ADJUST ANY OF THESE PARAMETERS**			
6				
7				
8				
9				
10				
11				

5.7.3 Multiple Controllers – Shared Zones

This feature enables all the Navigator Controllers connected to the system to be assigned to all the zones on the system (either switched or unswitched).

Any key press that changes the operating state or operating condition on any one of the controllers will be reflected on the other controllers on the Navigator control system.

5.7.4 Single EAC In Shared Zone (2 Wired Navigators)

With two Navigators, you need to ensure that only one Navigator controller is measuring the temperature for the common/ shared zone.

No modifications are required to Navigator 1 parameters but Navigator 2 will require parameter changes. The installer will need to set parameters as below,

Navigator Controller 2 Installer Parameters

Parameter	**Id**	**Value**	**Meaning**
Temperature Measurement – Common Zone	4	0	No measurement from common zone
Temperature Measurement – Switched Zones	5	0	No measurement from switched zones

All temperature measurement from Navigator 2 is now disabled

5.7.5 Single EAC In Shared Zone (2 Remote Navigators)

1. Pair the Navigator Controller 1 to the Transceiver as for a normal single thermostat installation.
2. Put Navigator 2 into the “Pairing state” (Refer “Pairing the Navigator Controller).
3. Put Navigator 1 into “Joining Mode” (Refer “Joining Navigator Controller”)
4. Navigator 1 should display “**Join**” and Navigator 2 should display “**Pair**” and then the network will be joined.

NOTE: ***No modifications are required to Navigator 1. With two Navigators, you need to ensure that only one is measuring the temperature for the common/ shared zone. Remote Navigator 2 will require parameter changes. The installer will need to set parameters as per the table above.***

5.7.6 Single EAC In Shared Zone (3 or 4 Navigators)

Set up primary and subsequent controllers (wired wall mounted or wireless remote) as above, ensuring all subsequent controllers are set to not measure temperature.

5.8 Fan Operation

- Check the fan is clear of the venturi.
- Set the fan running.
- Check that the air is being evenly distributed through the ductwork.
- Make adjustments, as required, to any manual air dampers that may be fitted.

5.9 Controls

- Refer to your control installation and commissioning instructions.

5.10 Customer hand Over

Instruct the customer in the use of the product.

- Controls
- Bleed off
- Venting/Exhausting the air via the side of the home the wind is not blowing from.
- Maintenance Requirements

Hand over of the customer's operational manual with the commissioning check list completed.

5.11 Commissioning Check List

You must complete, date and sign the 'tick box' checklist in the owner's manual. Use this copy to check the installation prior to completing the owner's documentation.

Unit

- ❑ All equipment ordered by the customer is installed.
- ❑ The unit is level and secure.
- ❑ The water supply line has been flushed to clear swarf and debris and is free of leaks.
- ❑ The tank is free of foreign matter and debris. The water isolating tap is turned ON.
- ❑ Water drainpipe work is completed and sealed.
- ❑ The fan assembly is correctly located and the fan blade spins freely in the venturi.
- ❑ The mains and control wiring are complete and the circuit breaker and GPO are turned ON.
- ❑ The minimum & maximum fan speeds are correctly set.
- ❑ The water basin fills with water and the float valve closes correctly when the water level is 65-70mm below the overflow level.

- ❑ The water pump operates correctly when turned ON at the controller.
- ❑ The Aquamiser cycle times and / or dialflow water bleed rate are set to suit local water conditions.
- ❑ Aquamiser drain valve is operating correctly and the tank drains correctly when unit turns off.
- ❑ The fan operates through the entire speed range.
- ❑ Water distribution is even with the filter pads fitted and the air conditioner operating pump and fan.
- ❑ All Controller functions for the appliance operate

Ductwork and general

- ❑ The Enviroseal functions correctly with the shutters opening downwards at 90°
- ❑ All roof penetrations are fully sealed and watertight.
- ❑ All ductwork is completed to plan, correctly supported and airtight, with no bend tighter than 1.5 x the ductwork diameter.
- ❑ Air distribution checked, dampers are adjusted and all outlets correctly adjusted and wiped clean.
- ❑ Man hole cover replaced.

Site

- ❑ All rubbish has been removed from inside and on the roof.

Customer Hand Over

You have explained the following to the customer:

- ❑ The operation of the Controller.
- ❑ The need to open windows and doors for the correct operation of Evaporative Air Conditioning
- ❑ The operation of the bleed or dumping system and it's importance to operate all the time
- ❑ Stick the Serial Number Label of the unit in the owners manual
- ❑ Maintenance requirements

6.0 Service

A qualified service technician should conduct any service work carried out on this ducted cooling product. It is important that periodical service is carried out on the product to ensure the customer receives the efficiency benefits the product provides.

Only an authorised Climate Technologies service provider can carry out warranty service.

For Metro Service only ring the numbers below

South Australia	1300 665 087	Email: saservice@climtech.com.au
New South Wales/ Queensland	1300 665 087	Email: nswservice@climtech.com.au
Australian Capital Territory	1300 665 087	
Western Australia	1300 665 087	Email: waservice@climtech.com.au
Victoria/Tasmania	(03) 8795 2456	Email: vicservice@climtech.com.au
Mobile Callers all states	03 8795 2460	

Outside Metro areas please contact your nearest Climate Technologies Service Provider

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